

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strike through~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1 and 6 and ADD new claim 29 as follows:

1. (CURRENTLY AMENDED) A wavelength multiplexing apparatus, comprising:
a multiplexing section multiplexing and/or demultiplexing optical signals to/from a wavelength-multiplex signal transferred through an optical multiplex transmission line, the optical signals having different wavelengths from each other and being individually transmitted or received by a plurality of signal conversion apparatuses;
a reference signal receiving section receiving a reference optical signal modulated according to a reference signal which is outputted from a specific one of said plurality of signal conversion apparatuses, and is a reference to synchronization in all or a part of said plurality of signal conversion apparatuses; and
a reference signal distributing section distributing the received reference optical signal in parallel to all or a part of said plurality of signal conversion apparatuses through optical transmission lines respectively formed between each of the plurality of signal conversion apparatuses and the reference signal distributing section.
2. (PREVIOUSLY PRESENTED) The wavelength multiplexing apparatus according to claim 1, wherein
said specific one of said plurality of signal conversion apparatuses wavelength-multiplexes said reference optical signal to an optical signal to be transmitted from the specific one of said plurality of signal conversion apparatuses, and
said reference signal receiving section receives said reference optical signal by demultiplexing or extracting said reference optical signal from said optical signal in a wavelength region.
3. (PREVIOUSLY PRESENTED) The wavelength multiplexing apparatus according to claim 1, wherein
said reference signal receiving section receives reference optical signals

individually supplied from a plurality of specific signal conversion apparatuses among said plurality of signal conversion apparatuses, and

said reference signal distributing section distributes one of the reference optical signals received by said reference signal receiving section.

4. (PREVIOUSLY PRESENTED) The wavelength multiplexing apparatus according to claim 1, wherein

said reference signal receiving section receives reference optical signals which are individually supplied from a plurality of specific signal conversion apparatuses and have a correspondence in advance with all or a part of said specific signal conversion apparatuses and said optical multiplex transmission line, and

said reference signal distributing section distributes the individually received reference optical signals to said signal conversion apparatuses corresponding to the reference optical signals or said optical multiplex transmission line.

5. (CANCELLED)

6. (CURRENTLY AMENDED) A wavelength multiplexing apparatus comprising:
a multiplexing section multiplexing and/or demultiplexing optical signals to/from a wavelength-multiplex signal transferred through an optical multiplex transmission line, the optical signals having different wavelengths from each other and being individually transmitted or received by a plurality of signal conversion apparatuses;

a reference signal receiving section receiving a reference optical signal modulated according to a reference signal which is outputted from a specific one of said plurality of signal conversion apparatuses, and is a reference to synchronization in all or a part of said plurality of signal conversion apparatuses; and

a reference signal distributing section distributing the received reference optical signal in parallel to all or a part of said plurality of signal conversion apparatuses through optical transmission lines respectively formed between each of the plurality of signal conversion apparatuses and the reference signal distributing section, and wherein

said multiplexing section includes an optical amplifier optically amplifying a wavelength-multiplex signal transferred through said optical multiplex transmission line and all or a part of optical signals demultiplexed from the wavelength-multiplex signal, and

said reference signal distributing section distributes said received reference

optical signal by modulating pumping light to be used for said optically amplifying, by the reference optical signal.

7. – 28. (CANCELLED)

29. (NEW) A wavelength multiplexing method, comprising:

multiplexing and/or demultiplexing optical signals to/from a wavelength-multiplex signal transferred through an optical multiplex transmission line, the optical signals having different wavelengths from each other and being individually transmitted or received by a plurality of signal conversion apparatuses;

receiving a reference optical signal modulated according to a reference signal which is outputted from a specific one of said plurality of signal conversion apparatuses, and is a reference to synchronization in all or a part of said plurality of signal conversion apparatuses; and

distributing the received reference optical signal in parallel to all or a part of said plurality of signal conversion apparatuses through optical transmission lines respectively formed between each of the plurality of signal conversion apparatuses and the reference signal distributing section.